

AMENDMENT TO THE SPECIFICATION

Please replace the paragraph beginning on page 3, line 14 and ending on page 3, line 21 with the following paragraph:

Typical writing poles ~~are~~—have a substantially uniform thickness to the pole tip. Therefore, a reduction to the thickness of the pole tip results in a reduction to the remainder of the writing pole that is adjacent the pole tip. This reduction in thickness diminishes the magnitude of the magnetic field that can be conducted through the writing pole tip and, thus, limits the coercivity of the recording medium on which the writing element can effectively record data. Consequently, such a reduction to the thickness of the writing pole reduces its ability to record data at a high areal density.

Please replace the paragraph beginning on page 10, line 11 and ending on page 10, line 18 with the following paragraphs:

Beveled portion 210 allows a large amount of magnetic material to be maintained in close proximity to pole tip 182 . Beveled portion 210 includes a bevel 220 that extends from pole tip 182 toward back gap 190. The angle of bevel ~~204~~220 relative to ABS 216 is preferably in the range of forty-five degrees. This configuration allows a strong magnetic field to be conducted through pole tip 182, even with its short height ~~200~~218, resulting in a higher areal density recording capability than that attainable by conventional prior art writing elements, such as 134 shown in FIG. 2.

Please replace the paragraph beginning on page 11, line 4 and ending on page 11, line 16 with the following paragraph:

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FIG. 7 is a flowchart illustrating a method of the present invention to form beveled writing pole 180 of writing element 190. At step 224 a ramped step 228 is formed having a high side 230, a low side 232 and a ramp portion 234 connecting the high side to the low side, as shown in FIG. 8. Ramped step 228 is preferably formed of the insulating material 196 (FIG. 4), which is used to insulate writing and return poles 180 and 188 from conductive coil 186, and can be aluminum oxide (Al_2O_3) or silicon nitride (Si_3N_4) or other suitable insulating material. Next at step 236, a writing pole portion 238 is formed on the ramped step 228 having the top portion 208 overlaying the beveled portion 210 (FIG. 4). Finally, pole tip 182 of the top portion 208 is defined at step 240. A more detailed discussion of the method of the present invention will be discussed in greater detail with reference to FIGS. 8, 9.1-9.3, 10.1-10.3 and 11.1-11.5.

Please replace the paragraph beginning on page 11, line 17 and ending on page 12, line 4 with the following paragraph:

In accordance with one embodiment of step 224 of the method, a vertical step 242 is formed having first and second sides 244 and 246 as shown in FIG. 8. Next, a layer of insulating material 248 is deposited over vertical step 242 to form the ramped step 228. Layer 248 is preferably deposited by sputter deposition in accordance with known methods. The high and low sides 230 and 232 of ramped step 228 respectively correspond to first and second

sides 244 and 246 of vertical step 242. An edge 250 of vertical step 242 separates the first and second sides 244 and 246 and is preferably formed substantially vertical, but can be angled toward either first side 244 or second side 246. Ramp portion 234 connects high side 230 to low side 232 and ultimately will define bevel ~~204-220~~ of beveled writing pole 180. Ramp portion 234 is formed as a result of natural faceting that takes place during the deposition of material over edge 250 of vertical step 242.

Please replace the paragraph beginning on page 13, line 1 and ending on page 13, line 18 with the following paragraph:

FIGS. 11.1-11.5 illustrate steps that can be performed to complete ~~step~~ steps 236 and 240 of the method and form the writing pole portion in accordance with various embodiments of the invention. Initially, a first magnetic layer 266 is deposited or formed over the high and low sides 230 and 232 of ramped step 228 in accordance with known methods, such as sputter deposition. First magnetic layer 266 is then polished down to approximately the high side 230 of ramped step 228 to reduce first magnetic layer 266 and form beveled portion 210. This step also forms a flat planar surface 270. Next, a second magnetic layer 272 is deposited over the flat surface 270, of the beveled portion 210 and high side 230 of ramped step 228 to form the top portion 208 thereby forming a writing pole portion 273 and completing step 236 of the method. First and second magnetic layers 266 and 272 are preferably formed of cobalt-iron (CoFe), cobalt-nickel-iron (CoNiFe), nickel-iron (NiFe), cobalt (Co), or other suitable magnetic conductive material. Subsequently, pole tip 182 can be defined by horizontally lapping ramped step 228 from high side 230 toward low side 232 to approximately a wedge point 274 of beveled

portion 210 to complete step 240 of the method and the formation of beveled writing pole 180.

Please replace the paragraph beginning on page 13, line 25 and ending on page 14, line 5 with the following paragraph:

In yet another embodiment of the invention, once first magnetic layer 266 is formed on ramped step 228 (FIG. 11.1), first magnetic layer 266 can be polished down toward first side 244 only a short distance so as to define top portion 208 and beveled portion 210 and form the writing pole portion 273 substantially as shown in FIG. 11.3. Consequently, this embodiment of the method eliminates the need to apply second magnetic layer 272.

REPLACEMENT DRAWINGS

Please amend FIGS. 6, 7 and 11.3 in accordance with the corresponding Annotated Marked-Up Drawings attached hereto. In the corrected drawings, a label for the throat portion 222 has been added to FIG. 6, the word "RECORDING" in box 236 of FIG. 7 has been replaced with "WRITING", and a label for the writing pole portion 273 has been added to FIG. 11.3. Also attached are replacement sheets that include the proposed corrections identified above.